

DEVELOPMENT AND VALIDATION OF A WHO-BASED LIFE SKILLS ASSESSMENT TOOL FOR SECONDARY SCHOOL STUDENTS OF KERALA

BINDU T V ¹, PROF.AR. SARAVANAKUMAR ²

¹PH.D. (EDUCATION) RESEARCH SCHOLAR DEPARTMENT OF EDUCATION, CDOE, ALAGAPPA UNIVERSITY, KARAİKUDI, TAMIL NADU, EMAIL: drbindutv77@gmail.com

²PROFESSOR, DEPARTMENT OF EDUCATION, CDOE, ALAGAPPA UNIVERSITY, KARAİKUDI, TAMIL NADU.

Abstract

Life skills play pivotal role in determining the personal, psychosocial, and academic growth of adolescents. The purpose of this research was to construct and validate, contextually appropriate and psychometrically reliable assessment tool to study the life skills of secondary school students of Kerala based on the World Health Organization's ten core life skills. Multiphase research approach was employed by creating preliminary item pool through literature search and experts' input, content validation, pilot testing, and factor analysis to determine the construct validity of the tool. Reliability of the tool was established by Cronbach's alpha measure. The final tool exhibited robust psychometric properties with distinct factor structures mapping onto the ten core life skills and high internal consistency between subscales, which can be used by stakeholders of education to assess the life skills of secondary school students' and design appropriate intervention strategies to develop the life skills in them.

Keywords: Life skills assessment; WHO; Secondary school students; Tool development and Validation; Kerala

INTRODUCTION

Adolescence is a period of active development witnessed with rapid physical, emotional, and cognitive changes in human being (Vranda & Rao, 2011). In this developmental stage, adolescents' personal identity, and social skills are improved and also become vulnerable to psychosocial stressors and considered a period of storm and stress in adolescents (Hall, 1904). Life skills are essential for adolescent students to effectively navigate their daily life challenges and opportunities (Darlington-Bernard et al., 2023; Verma, 2024), and lack of life skills result in behavioral, psychological, and health related problems in them (Thippeswamy et al., 2025). The World Health Organization (WHO, 1994) defined life skills as "the abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life." The UNESCO (2001) explained life skills as "a person's ability to maintain a state of mental wellbeing and to demonstrate the same in adaptive and positive behavior while interacting with others." The UNICEF (2007, 2017) observed life skills are essential abilities, values, and behaviors that help individuals navigate daily life and succeed in school, work, and society, as well as helping them to become lifelong learners, with the ability to achieve positive life outcomes.

Life skills are widely considered a necessity for children and young people regardless of their background to survive and thrive in today's complex, fast changing, global, digital and often challenging environment (World Bank, 2019). Life skills education to school students is emphasized to shape them into confident, adaptable, and resilient members of the society (Verma, 2024). Effectively designed life skills intervention programs across education developed resilience, minimized risky behaviors and anxiety, enhanced self-efficacy and healthy social functioning of adolescent students (Fazel et al., 2014; Darlington-Bernard et al., 2023). In Indian settings, life skills education is emphasized for cognitive development, reduce academic anxiety, enhance academic performance, and develop self confidence in school students' (Bhatia, 2014; Agadi, 2022; Kumar et al., 2022; Bala et al., 2024; Kavitha et al., 2024; Choudhry & Bakshi, 2024).

Kerala being a highly educated state with rigorous academic competition, the secondary school students are subjected to high psychological pressures due to academic stress and high parental expectations (Suresh & Subramoniam, 2015; Pienyu et al., 2024). A survey among higher secondary school students in Thiruvananthapuram reported 34.1 % of them remarkably academic achievers at times had greater stress level (Keerthi et al., 2024). Hence, many research findings necessitated for Kerala-specific tool to assess life skills of secondary school students and enhancement their psychosocial competencies.

Scope of Life Skills

Life skills education goes beyond the boundaries of formal learning and helps students to deal with their everyday problems, make right choices, improve self-efficacy, social connections, coping mechanisms, and stay psychologically balanced. Further, they act as protective factors against inappropriate behaviors, and provide opportunities for holistic development of students (Darlington-Bernard et al., 2023). In schools, life skills education is mostly embedded in health promotion models to promote good behavior, resilience, and wellbeing

of students (WHO, 1997; Masson et al., 2024). In Kerala, life skills education is more focussed on helping students to deal with academic pressure, social role transition, changing cultural expectations, mastery of language skills, digital literacy, and reading and writing skills (Government of Kerala, 2022).

Need to Develop a Life Skills Assessment Tool

Life skills are complex and abstract concepts, and to assess the effectiveness of life skills training, a scientifically robust, valid and reliable assessment tool is needed. Even though globally, there are many life skills assessment tools available such as Save the Children's Life Skills Assessment Tool (2023), Life Skills Measurement Tool – Middle School (UNICEF, Young Lives India & CBSE, 2023), Life Skills Item Booklets and Background Questionnaires (UNICEF, 2021), Life Skills Survey Tool (International Youth Foundation, 2021), Life Skills Assessment of Adolescents (UNICEF & Young Lives India, 2021), The Life Skills Assessment Scale (Pearson et al., 2020), Measuring Life Skills in the Context of Life Skills and Citizenship Education - Middle East and North Africa (UNICEF & World Bank, 2019), Life Skills Assessment Scale (Kennedy et al., 2014), and Life Skills Inventory Independent Living Skills Assessment Tool (Washington State Department of Social and Health Services, 2008), but only a few life skills assessment tools have been developed for Kerala-specific socioeconomic, educational, and cultural context including the Life Skills Assessment Scale (Subasree & Nair, 2010), and Assessment of Handbook and Workbook of 'Ullasapparavakal' (SCERT, 2018).

Cultural, linguistic, familial, and academic aspects of Kerala can shape the nature of life skills education and assessment mechanisms. Currently available life skills assessment tools are mainly designed for western context and or more general with respect to Indian populations, which are not suitable to assess Kerala-relevant stressors (e.g., examination pressure, intergenerational family obligation) and social norms (e.g., close community relationships) of secondary school students. Moreover, educators and researchers cannot accurately measure life skills profiles or evaluate its interventions within Kerala school systems, unless a culturally adapted life skills assessment tool is made available.

Therefore, this research aims to address the gap by developing a valid and reliable life skills measure rooted in the WHO's ten core skills and tailored to Kerala's cultural and educational environment by adopting the best practices in psychometrics from generating items to expert review, pilot testing, item analysis, reliability evaluation, and factor validation.

Present Study

To address the gaps identified, the current research attempts to develop and validate an assessment tool for the WHO described ten core life skills, adopting multi stage approach of item generation, experts' validation, pilot testing, and psychometric analysis to establish the validity and reliability of the tool. The following are the specific objectives of this research:

- To develop a life skills assessment tool grounded in the ten life skills identified by the WHO, contextualized to the psychosocial, cultural, and educational settings of Kerala students.
- To determine the reliability and validity of the tool that is developed through experts' judgment, factor analysis, and internal consistency.

Through the accomplishment of these objectives, this research hopes to provide educators, counselors, and policymakers with a scientifically proven framework to make accurate assessment of life skills of Kerala secondary school students.

REVIEW OF LITERATURE

Life skills development and integrating life skills education for students of different stages becomes a priority area to help them to manage the complex life conditions and develop them as holistic person in the fast-developing land scape of the world, especially it is vital for students of adolescent stage (New Education Policy, 2020). The WHO defined ten core skills: self-awareness, empathy, critical thinking, creative thinking, decision making, problem solving, effective communication, interpersonal relationship skills, coping with stress, and coping with emotions are the building blocks for adaptive functioning of the students. This section summarizes recent studies on each life skill with special focus on studies related to Kerala.

Self-awareness

Self-awareness is the ability of a person to recognize own self, character, strengths and weaknesses, and desires and dislikes (WHO, 1994). It is the ability to self-reflect on a wide range of conscious levels and it could be improved experimentally by self-focusing stimuli (Duval & Wicklund, 1972; Ferrari & Sternberg, 1998). Self-awareness is both a primary means of alleviating psychological distress and the path of self-development for psychologically healthy individuals apart from helping them for goal setting, emotional regulation, decision making, and resilience (Sutton, 2016). Majolo et al. (2023) noted self-awareness is a critical factor linked with lowered anxiety and better academic adjustment. Bernard (2023) documented the role of emotional literacy training in promoting self-awareness among adolescents. Mindfulness training is recommended to enhance self-awareness of students (Browning, 2020; Yunting, 2025; Puhan & Malla, n.d.). Kerala studies recognize that students' self-awareness mediates between examination pressure and coping (Bindu & Saravanakumar, 2025).

Empathy

Empathy is the ability of an individual to imagine what life is like for another person, even in a situation that a person is not familiar with (WHO, 1994). It is the capacity of a person to share and understand another person's

state of mind or emotions, and triggered in the perceptual encounter with an external stimulus (Ioannidou & Konstantikaki, 2008; Stueber, 2025). Majolo et al. (2023) asserted that affective and cognitive empathy were the predictors of good peer relationships among adolescents. Bernard (2023) argued that programs based on empathy increase emotional school cohesion. Thomas and Karalam (2024) demonstrated that empathy gains through intervention among marginalized Kerala youth, validating the cultural sensitivity of empathy development.

Critical thinking

Critical thinking is an ability of a person to analyse information and experiences in an objective manner (WHO, 1994). It is the process of thinking about ideas or situations in order to understand them fully, identify their implications, make a judgement, and or guide decision making (Hitchcock, 2024). Educational interventions have improved the critical thinking through dialogue, anchored instruction, and mentoring methods (Abrami et al., 2015). It is contended that critical thinking training is necessary to interpret and evaluate the observations and communications, information and argumentation as well as to address digital media literacy and critical assessment skills (Fisher & Scriven 1997; Zimmermann & Tomczyk, 2025). Therefore, critical thinking skill items are included in a Kerala-specific life skills assessment tool.

Creative thinking

Creative thinking is a process of decision making and problem solving by enabling a person to explore the available alternatives and the consequences of his/her actions or inaction (WHO, 1994). Creative thinking is an unusual insight and solution to problems by generating different kinds of ideas, manipulate ideas in unusual ways and make unconventional connections in order to outline novel possibilities that have the potential to elegantly meet a given purpose (Halpern, 2001; The Australian Council for Educational Research, 2020). The Economist Foundation (2024) suggests that incorporating critical thinking into education profoundly impacts students' academic achievements, personal development, and future readiness and equip them with the skills to navigate a complex, and information driven world. Classroom interventions that integrate problem-based tasks with blended (online and face-to-face) activities hold potential to enhance divergent idea generation and everyday creativity in adolescents (OECD, 2023; Rawlings & Cutting, 2024; Weiss, 2024). Situating creativity tasks within local socioenvironmental problem contexts (e.g., climate-sensitive projects) enhances relevance and transfer for Kerala.

Decision making

Decision making helps a person to deal constructively with decisions about one's life (WHO, 1994). It is a cognitive process of human behaviors by which a preferred option or a course of actions is chosen from among a set of alternatives (Wang & Ruhe, 2007). Decision making ability at the adolescent stage correlates with greater self-efficacy, successful school transition, and higher wellbeing (Pedditzi et al., 2023). Regional tasks from Kerala focus on ensuring decision making training becomes contextualized by incorporating locally relevant issues, for example, schooling/career decisions, family pressures, and environmental issues so that items reflect not just abstract thinking but also culturally common decisional contexts (Bindu & Saravanakumar, 2025).

Problem solving

Problem solving skill enables a person to deal constructively with problems in his/her lives (WHO, 1994). It is noted that problem solving is closely associated with other life skills: critical thinking, decision making, creative thinking, and it is a critical predictor of school adjustment and resilience. Global assessment frameworks and recent researches in India underlines the importance of metacognitive strategy (Ali, 2014), context simulation and project design (Yu et al. 2014; Cambaya & Tan, 2022), problem solving model of teaching (Nithya Prem, 2018), experiential activities (Uyen et al., 2021), action research projects (Tothova & Rusek, 2021), integration of technology (Sindhu, 2021), problem based learning strategies (Karan & Brown, 2022; Garil, 2023; Singodiya & Kuldeep, 2025), collaborative learning (He et al. 2023; Junaid, 2025; Padhi et al., 2025), inquiry based learning (Sharma, 2023), gamification (Xavier & Thankachan, 2024), design thinking (Nguyễn et al., 2025). Kerala-specific authors suggest incorporating region relevant environmental and community issues into the instructional and assessment program to enhance ecological relevance and participation of people (OECD, 2023; Thippeswamy et al., 2025; Bindu & Saravanakumar, 2025).

Effective communication

Effective communication skill the ability of person to express one's self, both verbally and non-verbally, in ways that are appropriate to cultures and situations (WHO, 1994). Effective communication is associated with academic success as well as psychosocial adjustment. Use of social media (Olowo et al., 2020), instructions, instant feedback, listening, gamification, and friendly approach (Lawrance et al., 2024), web-based simulation instructions, blended learning, different online applications, smart phones, computer assisted language learning, whatsapp group, movie clips, audio visual cassettes, and different websites (Mahanty & Misra, 2023), problem posing and presentation methods (Sugito et al., 2017) are suggested for developing communication skills in students. Thomas and Karalam (2024) found remarkable improvement in Kerala's Paniya tribal adolescent girls' communication following life skills training. Sukanya and Menon (2024) examined the life skills of tribal secondary school students in Attappady and confirmed that communication skills could be effectively measured within this local context.

Interpersonal relationship skills

Interpersonal relationship skills help a person to relate in positive ways of interaction with others (WHO, 1994). Studies recommend for activity based intervention programs (Kadu & Pandya, 2014), group learning (Moradi et al., 2018), roleplay (Devika, 2021), cooperative and collaborative strategy (Abid et al. 2022), participatory

learning (Sheenu & Paul, 2024; Zhang et al., 2024), online learning programs and interaction through WhatsApp, Facebook and other social media (Perveen & Krishnasamy, 2024), and assigning team work (Tarka & Adaka, 2022; Agnihotri, 2025) to enhance interpersonal relationship skills of students. Manacy (2024) study showed the interpersonal relationship of secondary school students in Kerala were average in nature. Thomas and Karalam (2024) observed noteworthy improvement in interpersonal relationships among adolescent girls from tribal communities following life skills interventions in Wayanad, Kerala.

Coping with stress

Coping with stress is about recognising the sources of stress in our lives, recognising its effect, and acting in ways that help to control our levels of stress (WHO, 1994). Researchers suggest that religion, positive reinterpretation, active coping, planning, and use of instrumental support (Yusoff, 2010), games and sports activities (Shahmohammadi, 2011; Ganesan, 2018), humor, denial and behavioral disengagement (Geoge et al., 2016), listening to music (Maduagwu & Fyneboy, 2019), cognitive-behavioral therapy (Jagiello et al., 2024), and developing positive thinking (Saleem et al., 2024) to manage stress of students. Saravanan and Tamizharasi (2025) identified that school-based stress management interventions enhanced coping capacity and minimized absenteeism among students. Thippeswamy et al. (2025) illustrated that structured coping training substantially reduced examination related stress in Indian schools.

Coping with emotions

Coping with emotions involves recognising emotions in ourselves and others, being aware of how emotions influence behaviour, and being able to respond to emotions appropriately (WHO, 1994). Emotion regulation is at the core of adolescent adaptation. Studies indicates that self-regulating emotional reaction, realizing pent-up emotions, distracting one self, managing hostile feelings, meditating, systematic relaxation procedures, etc. for coping with emotions of students (Shahmohammadi, 2011; Dar & Bhat, 2021; Raza et al., 2025). Saravanan and Tamizharasi (2025) indicated that organized life skills interventions enhanced emotion regulation and decreased emotional distress. Majolo et al. (2023) showed that self-awareness and emotion regulation skills emerge together in adolescence. Thomas and Karalam (2024) research emphasize training on coping mechanisms for reduction of examination anxiety and family pressures among Kerala students.

Inference

Based on the literature review, it is evident that life skills defined by WHO are applicable to Kerala adolescent students who experiences academic competition, sociocultural pressures, and environmental issues, uniquely contributing to developmental needs. Regional researches attest that these skills are not fixed and could be enhanced through interventions, even for the marginalized populations. Significantly, tools that currently exist do not sufficiently reflect Kerala's sociocultural environment, like examination pressure, family pressure, peer pressure, environmental issues, and other psychosocial issues. Thus, there is a need for a culturally modified and psychometrically tested tool to measure Kerala secondary school students' life skills holistically.

METHODOLOGY

This study aims to construct and test an extensive life skills assessment tool specific to Kerala's secondary school students based on the ten-core life skills framework of the WHO. To address the issue of context relevance and psychometric quality, a pilot test was conducted with a sample of 200 Class IX students in Kerala. The pilot implementation allowed for fine tuning of the instrument, testing of item clarity, and the determination of initial reliability and validity, thus setting a strong foundation for large scale implementation.

Preparation of the Draft Tool

Following the WHO's identification of ten core life skills, the researcher developed a set of statements relating to each life skill for use as test items of Life Skills Scale on the five-stage model suggested by Hinkin (1998). The answers were keyed on a five-point Likert scale, starting from Strongly Disagree (1) to Strongly Agree (5), to record the level of agreement by the participants of the test. Table 1 shows the distribution of items generated under each life skill dimension, which together represent the initial version of the assessment instrument.

Table 1 Distribution of Test Items across WHO-Defined Life Skills Dimensions

Sl. No.	Life Skills	Statements
1.	Self-awareness (S1)	I can recognize my emotions
2.		I can identify the reasons for my emotions
3.		I can explain my emotions in any form
4.		I know the effects of emotions
5.		I can point out the different kinds of emotions
6.		I can confidently speak and act
7.		I can accomplish my tasks within the time
8.		I can boldly express my views
9.		I am happy about myself
10.		I have trust in my abilities and skills
11.	Empathy (S2)	I can understand others feelings

12.		I can make out when someone feels discomfort
13.		I consider others feelings before I act
14.		I feel sorry when someone weeps
15.		I provide comfort when someone feels sad
16.		I respect others religion and culture
17.		I consider others' views even though they are agreeable to me
18.		I appreciate others capabilities
19.		I consider everyone as equal
20.		I don't form any impression on anyone just based on their appearance and interactions
21.	Critical Thinking (S3)	I can weigh the pros and cons of information
22.		I can identify the misleading and false information
23.		I used to verify the genuineness of information that I get
24.		I act upon information only after proper validation of the same
25.		I critically evaluate the information before arriving conclusions
26.		I can guess the end of a situation
27.		I can point out the root causes for a situation
28.		I can connect the events that led to development of a situation
29.		I reflect on the happening than worrying about them
30.		I assess carefully the end results before taking actions
31.	Creative Thinking (S4)	I like to do things differently
32.		I can adopt variety of actions for a problem
33.		I like to create new things from the existing ones
34.		I think and act differently from others
35.		I can give ideas beyond others imagination
36.		I adjust my plans to gain good results
37.		I try alternate means to avoid failures
38.		I work on different strategies to end the problems
39.		I accept changes without any hesitation
40.		I believe that others are also equally competent to think and act differently
41.	Decision Making (S5)	I consider all options before deciding things
42.		I explore all the options to solve a problem
43.		I decide things based on the factual information
44.		I can project the effects of my actions
45.		I seek others suggestions and guidance before taking decisions
46.		I am aware of the effects of my decisions
47.		I own responsibilities for my decisions
48.		I refrain from taking harmful decisions
49.		I think about my earlier decisions
50.		I am bold in taking hard decisions
51.	Problem Solving (S6)	I can understand the reality of problems
52.		I can identify the causes for the problems
53.		I can sense the problems that could get intensified
54.		I search for information to gain better understanding on problems
55.		I can make out the nature of problems
56.		I explore many options to solve problems
57.		I keep in mind about the positive and negative impacts of solutions to problems
58.		I seek others help when I become clueless to solve problems
59.		I make trials of solutions that perfectly fits to solve problems
60.		I keep change my plan of actions until problems are solved
61.	Effective Communication (S7)	I can speak clearly to express my views

62.		I can seek clarifications from others for my understanding
63.		I can smoothly communicate to others about my needs and demands
64.		I can communicate to others when I am not comfortable with their communication
65.		I can give clear instructions and directions to others
66.		I can listen to others views without interrupting them
67.		I can recall what people told me
68.		I can get my doubts clarified with others
69.		I can respond to others views based on my understanding
70.		I can provide appropriate feedback to others views
71.	Interpersonal Relationship (S8)	I like to spend time with my friends
72.		I can make new friends
73.		I take care of my friends while they are in critical situations
74.		I am frank to my friends
75.		I can maintain friendship at all situations
76.		I don't get agitated when arguments are made
77.		I can carefully listen to both sides of the conflicting groups
78.		I can quietly deal with problems without making a fuss
79.		I can consider others point of views to solve a conflict
80.		I regret for my faults
81.	Coping with Stress (S9)	I can recognize the symptoms of stress
82.		I can clearly express my stress
83.		I can feel whenever I am over stressed
84.		I can identify the reasons causing stress to me
85.		I can communicate whenever I need some rest from my work
86.		I deeply breath to cool down myself whenever I am stressed
87.		I inform to others when I am stressed out
88.		I take a short break when I am stressed out
89.		I plan my time and events meticulously to avoid stress
90.		I keep myself cool and steady to get away from stress
91.	Coping with Emotions (S10)	I can realize the nature and gravity of my emotions
92.		I can clearly describe the kind of emotions that I get
93.		I can point out the causes for my emotions
94.		I can talk to people when I am emotionally disturbed
95.		I can withstand from any kind of emotional disturbances
96.		I can show my anger without disturbing others feelings
97.		I can narrate my feelings by any mode of communication
98.		I switch over to other kinds of actions whenever I am emotionally upset
99.		I don't get disturbed when people criticize me
100.		I feel relaxed after sharing my feelings to someone

Altogether, the researcher created 100 test items to be included in the draft Life Skills Assessment Scale - with each of the ten WHO-specified life skill domains represented by 10 statements. This even ratio provides full coverage of all aspects of each area while facilitating comparison of skills. Each item is set up on a five-point Likert scale with Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree as response options to facilitate reliable measurement of degrees of agreement among participants of the research.

Validation of the Tool

Validity refers to the extent to which a test measures what it purports to measure (Cronbach, 1951). Validity ensures that the instrument captures the desired dimensions and not extraneous attributes. Validity is a matter of degree, not an absolute characteristic, and this characterizes the strength of evidence for the instrument's proposed use.

Content Validity

The validation process started with sending the draft tool to the research guide and five other subject experts overseeing doctoral studies in education and psychology. They were asked to assess the relevance, clarity, and appropriateness of the statements and make refinements as suggestions. Depending on their comments, required changes were incorporated to enhance the wording and conceptual fit of the items. Based on the experts' review, the content validity of the draft tool was ascertained.

Item Validity

For determining item validity, the revised draft tool was administered to a sample of 200 Class IX students of Kerala. The answers were tabulated and analyzed systematically to assess the validity of each item. Goodness-of-Fit Test (Chi-Square One-Sample Test) was applied for the same. For each of the statements in the draft tool, the null hypothesis was that the distribution of answers across the five option categories - Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree - was by chance and not by conscious choice. Null hypothesis rejection confirmed that the response patterns that were observed statistically significant, hence a testament to the validity of the corresponding items.

Table 2 Goodness-of-Fit (Chi-Square Test) for Life Skills Scale Items

Sl. No.	Chi-square value	Remark on H ₀	Sl. No.	Chi-square value	Remark on H ₀	Sl. No.	Chi-square value	Remark on H ₀
1.	98.45	Rejected	35.	46.05	Rejected	69.	76.70	Rejected
2.	75.5	Rejected	36.	29.85	Accepted	70.	108.40	Rejected
3.	11.65	Accepted	37.	38.30	Accepted	71.	219.85	Rejected
4.	115.45	Rejected	38.	43.55	Rejected	72.	103.75	Rejected
5.	50.05	Rejected	39.	35.90	Accepted	73.	180.75	Rejected
6.	40.00	Accepted	40.	68.75	Rejected	74.	97.30	Rejected
7.	70.10	Rejected	41.	83.30	Rejected	75.	80.35	Rejected
8.	38.00	Accepted	42.	22.90	Accepted	76.	58.60	Rejected
9.	30.40	Accepted	43.	70.02	Rejected	77.	65.75	Rejected
10.	42.15	Rejected	44.	79.75	Rejected	78.	97.25	Rejected
11.	155.60	Rejected	45.	48.65	Rejected	79.	106.95	Rejected
12.	225.80	Rejected	46.	89.55	Rejected	80.	90.35	Rejected
13.	142.25	Rejected	47.	68.35	Rejected	81.	120.25	Rejected
14.	155.00	Rejected	48.	51.95	Rejected	82.	43.25	Rejected
15.	235.80	Rejected	49.	96.80	Rejected	83.	101.20	Rejected
16.	129.05	Rejected	50.	56.35	Rejected	84.	89.75	Rejected
17.	61.80	Rejected	51.	50.85	Rejected	85.	68.25	Rejected
18.	146.00	Rejected	52.	69.65	Rejected	86.	104.20	Rejected
19.	39.65	Accepted	53.	70.50	Rejected	87.	30.90	Accepted
20.	52.40	Rejected	54.	43.10	Rejected	88.	151.20	Rejected
21.	78.10	Rejected	55.	42.05	Rejected	89.	71.75	Rejected
22.	57.70	Rejected	56.	68.35	Rejected	90.	117.65	Rejected
23.	79.40	Rejected	57.	67.35	Rejected	91.	55.90	Rejected
24.	21.75	Accepted	58.	88.00	Rejected	92.	72.85	Rejected
25.	60.80	Rejected	59.	107.45	Rejected	93.	82.45	Rejected
26.	44.65	Rejected	60.	41.30	Rejected	94.	51.85	Rejected
27.	59.60	Rejected	61.	49.00	Rejected	95.	51.85	Rejected
28.	56.65	Rejected	62.	69.35	Rejected	96.	37.40	Accepted
29.	41.68	Rejected	63.	35.20	Accepted	97.	50.40	Rejected
30.	48.00	Rejected	64.	92.05	Rejected	98.	107.05	Rejected
31.	112.45	Rejected	65.	58.60	Rejected	99.	88.35	Rejected
32.	83.00	Rejected	66.	71.15	Rejected	100.	118.8	Rejected
33.	52.68	Rejected	67.	61.50	Rejected			
34.	36.35	Accepted	68.	99.55	Rejected			

Table 2 shows the results of the Goodness-of-Fit test of each of the 100 items and the conclusion on acceptance or rejection of the null hypothesis that was developed for every statement. Through the test, 14 items were rejected and 86 items were kept, resulting in narrowing down the instrument to a second draft of 86 items. The list of the 14 items dropped from the first draft tool is shown in Table 3.

Table 3 Items Deleted after the Goodness-of-Fit Test of the Life Skills Scale

Sl. No.	Statements
1.	I can explain my emotions in any form (S1)
2.	I can confidently speak and act (S1)
3.	I can boldly express my views (S1)
4.	I am happy about myself (S1)
5.	I consider everyone as equal (S2)
6.	I act upon information only after proper validation of the same (S3)

7.	I think and act differently from others (S4)
8.	I adjust my plans to gain good results (S4)
9.	I try alternate means to avoid failures (S4)
10.	I accept changes without any hesitation (S4)
11.	I explore all the options to solve a problem (S5)
12.	I can smoothly communicate to others about my needs and demands (S7)
13.	I inform to others when I am stressed out (S9)
14.	I can show my anger without disturbing others feelings (S10)

Construct Validity

After deleting 14 items using the Goodness-of-Fit test, construct validity for the revised instrument was inspected. Item–dimension total correlations for all of the remaining statements were calculated to determine the degree to which each item was aligned with its corresponding life skill dimension. As can be seen from Table 4, the analysis gives the item–dimension total correlation values for the 86 items retained, thus assuring the internal consistency and construct validity of the second draft of the tool.

Table 4 Item–Total Correlation Coefficients for the Life Skills Scale

Sl. No.	r - value	Remark	Sl. No.	r - value	Remark	Sl. No.	r - value	Remark
1.	0.21	Retained	30.	0.02	Deleted	59.	0.32	Retained
2.	0.23	Retained	31.	0.40	Retained	60.	0.47	Retained
3.	0.31	Retained	32.	0.43	Retained	61.	0.30	Retained
4.	0.37	Retained	33.	0.28	Retained	62.	0.23	Retained
5.	0.36	Retained	34.	0.23	Retained	63.	0.25	Retained
6.	0.32	Retained	35.	0.38	Retained	64.	0.30	Retained
7.	0.39	Retained	36.	0.30	Retained	65.	0.14	Deleted
8.	0.44	Retained	37.	0.45	Retained	66.	0.21	Retained
9.	0.32	Retained	38.	0.39	Retained	67.	0.26	Retained
10.	0.21	Retained	39.	0.35	Retained	68.	0.35	Retained
11.	0.38	Retained	40.	0.32	Retained	69.	0.07	Deleted
12.	0.24	Retained	41.	0.25	Retained	70.	0.35	Retained
13.	0.32	Retained	42.	0.32	Retained	71.	0.32	Retained
14.	0.35	Retained	43.	0.31	Retained	72.	0.22	Retained
15.	0.42	Retained	44.	0.31	Retained	73.	0.04	Deleted
16.	0.43	Retained	45.	0.13	Deleted	74.	0.36	Retained
17.	0.32	Retained	46.	0.48	Retained	75.	0.30	Retained
18.	0.38	Retained	47.	0.33	Retained	76.	0.24	Retained
19.	0.02	Deleted	48.	0.21	Retained	77.	0.35	Retained
20.	0.11	Deleted	49.	0.47	Retained	78.	0.15	Deleted
21.	0.41	Retained	50.	0.21	Retained	79.	0.27	Retained
22.	0.28	Retained	51.	0.50	Retained	80.	0.22	Retained
23.	0.30	Retained	52.	0.30	Retained	81.	0.21	Retained
24.	0.40	Retained	53.	0.40	Retained	82.	0.32	Retained
25.	0.57	Retained	54.	0.40	Retained	83.	0.22	Retained
26.	0.33	Retained	55.	0.34	Retained	84.	0.13	Deleted
27.	0.44	Retained	56.	0.21	Retained	85.	0.04	Deleted
28.	0.25	Retained	57.	0.37	Retained	86.	0.09	Deleted
29.	0.40	Retained	58.	0.18	Deleted			

As indicated in Table 4, 86 statements were analyzed using item–dimension total correlation. Out of these, 74 statements correlated significantly with their respective dimensions and were kept within the scale, while 12 statements failed to reach the significance level and were then deleted. Table 5 is a list of these 12 deleted items, listed in the order of their respective dimensions.

Table 5 Items Deleted Following the Item–Total Correlation Analysis of the Life Skills Scale

Sl. No.	Statements
1.	I critically evaluate the information before arriving conclusions (S2)
2.	I can guess the end of a situation (S2)
3.	I believe that others are also equally competent to think and act differently (S3)
4.	I explore many options to solve problems (S5)
5.	I can provide appropriate feedback to others views (S6)
6.	I can carefully listen to both sides of the conflicting groups (S7)

7.	I can recognize the symptoms of stress (S7)
8.	I can communicate whenever I need some rest from my work (S8)
9.	I can realize the nature and gravity of my emotions (S8)
10.	I switch over to other kinds of actions whenever I am emotionally upset (S9)
11.	I don't get disturbed when people criticize me (S9)
12.	I feel relaxed after sharing my feelings to someone (S9)

Subsequently, the correlation between each total dimension and the overall composite of the scale was calculated to assess internal consistency and the contribution of each life skill dimension to the overall measure. The findings of this measurement are shown in Table 6.

Table 6 Correlation Between Dimension Totals and Composite Score of the Life Skills Scale

Sl. No.	Dimension	r - value	Significance
1.	Self-Awareness	0.562	0
2.	Empathy	0.535	0
3.	Critical Thinking	0.722	0
4.	Creative Thinking	0.549	0
5.	Decision Making	0.809	0
6.	Problem Solving	0.752	0
7.	Communication	0.826	0
8.	Interpersonal Skills	0.671	0
9.	Coping with Stress	0.688	0
10.	Coping with Emotions	0.775	0

Because the correlations between each of the dimensions and the total score of the Life Skills Scale were significant at the 1% level, the contribution of each dimension to the construct as a whole is established, thereby lending support to retaining all the dimensions in the tool.

Factorial Validity

In order to finalize the validation process, Factor Analysis was carried out. The partially validated draft tool was again administered to a sample of 200 students in Class IX, randomly drawn from secondary schools of Kerala. The gathered and tabulated responses were then analyzed using Factor Analysis. The process was initiated with the extraction of communality values for the entire 74 retained items, as shown in Table 7.

Table 7 Extracted Communalities of Life Skills Scale

Item No.	Initial Value	Extraction	Item No.	Initial Value	Extraction	Item No.	Initial Value	Extraction
1.	1.0	0.67	26.	1.0	0.72	51.	1.0	0.69
2.	1.0	0.67	27.	1.0	0.78	52.	1.0	0.71
3.	1.0	0.78	28.	1.0	0.71	53.	1.0	0.77
4.	1.0	0.74	29.	1.0	0.76	54.	1.0	0.73
5.	1.0	0.64	30.	1.0	0.62	55.	1.0	0.68
6.	1.0	0.68	31.	1.0	0.62	56.	1.0	0.72
7.	1.0	0.65	32.	1.0	0.75	57.	1.0	0.76
8.	1.0	0.72	33.	1.0	0.65	58.	1.0	0.58
9.	1.0	0.73	34.	1.0	0.77	59.	1.0	0.65
10.	1.0	0.73	35.	1.0	0.73	60.	1.0	0.69
11.	1.0	0.82	36.	1.0	0.76	61.	1.0	0.74
12.	1.0	0.66	37.	1.0	0.71	62.	1.0	0.71
13.	1.0	0.76	38.	1.0	0.81	63.	1.0	0.78
14.	1.0	0.63	39.	1.0	0.75	64.	1.0	0.73
15.	1.0	0.62	40.	1.0	0.72	65.	1.0	0.70
16.	1.0	0.74	41.	1.0	0.67	66.	1.0	0.71
17.	1.0	0.72	42.	1.0	0.80	67.	1.0	0.72
18.	1.0	0.80	43.	1.0	0.72	68.	1.0	0.62
19.	1.0	0.71	44.	1.0	0.69	69.	1.0	0.71
20.	1.0	0.67	45.	1.0	0.67	70.	1.0	0.67
21.	1.0	0.73	46.	1.0	0.71	71.	1.0	0.70
22.	1.0	0.68	47.	1.0	0.73	72.	1.0	0.58
23.	1.0	0.62	48.	1.0	0.72	73.	1.0	0.70
24.	1.0	0.68	49.	1.0	0.70	74.	1.0	0.68

25.	1.0	0.70	50.	1.0	0.78			
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As shown in Table 7, all 74 items had communality values greater than 0.57, validating them for retention within the scale. For further constructing validation, the following analysis is aimed at explaining the overall variance accounted for by each component using the Initial Eigenvalues, as shown in Table 8.

Table 8 Total Variance Explained: Eigenvalues and Extraction Sums of Squared Loadings for the Life Skills Scale

Item	Initial Eigen Values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1.	10.219	13.741	13.741	10.219	13.741	13.741
2.	4.007	5.388	19.129	4.007	5.388	19.129
3.	3.179	4.275	23.404	3.179	4.275	23.404
4.	2.889	3.885	27.288	2.889	3.885	27.288
5.	2.551	3.429	30.718	2.551	3.429	30.718
6.	2.477	3.331	34.049	2.477	3.331	34.049
7.	2.382	3.203	37.252	2.382	3.203	37.252
8.	2.249	3.023	40.275	2.249	3.023	40.275
9.	1.877	2.523	42.798	1.877	2.523	42.798
10.	1.860	2.501	45.299	1.860	2.501	45.299
11.	1.711	2.300	47.599	1.711	2.300	47.599
12.	1.637	2.201	49.800	1.637	2.201	49.800
13.	1.586	2.133	51.932	1.586	2.133	51.932
14.	1.512	2.033	53.966	1.512	2.033	53.966
15.	1.467	1.972	55.938	1.467	1.972	55.938
16.	1.387	1.864	57.802	1.387	1.864	57.802
17.	1.361	1.830	59.632	1.361	1.830	59.632
18.	1.280	1.721	61.353	1.280	1.721	61.353
19.	1.237	1.663	63.016	1.237	1.663	63.016
20.	1.173	1.577	64.593	1.173	1.577	64.593
21.	1.126	1.515	66.108	1.126	1.515	66.108
22.	1.072	1.441	67.549	1.072	1.441	67.549
23.	1.026	1.380	68.929	1.026	1.380	68.929
24.	1.018	1.369	70.298	1.018	1.369	70.298
25.	0.988	1.329	71.627			
26.	0.966	1.298	72.925			
27.	0.953	1.282	74.207			
28.	0.934	1.256	75.463			
29.	0.881	1.184	76.648			
30.	0.871	1.171	77.819			
31.	0.774	1.040	78.859			
32.	0.764	1.027	79.886			
33.	0.750	1.008	80.895			
34.	0.719	0.966	81.861			
35.	0.695	0.935	82.796			
36.	0.681	0.915	83.711			
37.	0.668	0.898	84.609			
38.	0.640	0.860	85.469			
39.	0.609	0.818	86.287			
40.	0.566	0.760	87.048			
41.	0.543	0.730	87.778			
42.	0.517	0.695	88.473			
43.	0.504	0.678	89.150			
44.	0.468	0.629	89.779			
45.	0.453	0.610	90.389			
46.	0.436	0.586	90.975			
47.	0.422	0.567	91.543			

48.	0.414	0.556	92.099			
49.	0.388	0.522	92.620			
50.	0.370	0.498	93.118			
51.	0.363	0.488	93.606			
52.	0.346	0.465	94.071			
53.	0.328	0.442	94.513			
54.	0.315	0.423	94.936			
55.	0.309	0.415	95.351			
56.	0.285	0.383	95.733			
57.	0.277	0.373	96.106			
58.	0.254	0.342	96.448			
59.	0.243	0.326	96.774			
60.	0.228	0.307	97.081			
61.	0.221	0.298	97.379			
62.	0.213	0.287	97.666			
63.	0.207	0.278	97.944			
64.	0.201	0.270	98.214			
65.	0.178	0.240	98.454			
66.	0.175	0.235	98.689			
67.	0.165	0.222	98.911			
68.	0.155	0.208	99.119			
69.	0.139	0.187	99.306			
70.	0.124	0.167	99.473			
71.	0.115	0.155	99.628			
72.	0.102	0.138	99.765			
73.	0.092	0.124	99.889			
74.	0.082	0.111	100.000			

The factor analysis as shown in Table 8, indicate that the first five items captured initial eigenvalues between 2.55 and 10.21, each representing between 3.42% and 13.74% of the variance. Together, these items capture 30.72% of the total variance. The extraction sums of squared loadings validate this finding shows that the cumulative variance explained by the first ten items is 45.29%. Notably, extraction sums of squared loadings are shown for up to Item 74, providing the transparency of variance contributions for all items. Beyond item ten, explained variance for each subsequent item drops gradually, with items from the eleventh and below contributing less than 2.30% per item. This trend implies that the scale is largely characterized by the initial strong components and justifies their retention for further principal component analysis with varimax rotation under Kaiser normalization.

Table 9 Principal Component Analysis of the Life Skills Scale

Items	Components									
	1	2	3	4	5	6	7	8	9	10
Item 1	-0.332	-0.042	0.176	-0.050	-0.068	-0.039	0.448	-0.067	-0.202	0.186
Item 2	-0.370	0.220	0.117	0.109	-0.227	0.095	-0.298	0.072	-0.047	0.057
Item 3	-0.422	-0.228	-0.079	0.239	0.138	0.310	0.087	0.011	0.067	-0.014
Item 4	-0.328	0.177	-0.469	-0.195	-0.113	0.100	-0.221	0.112	-0.013	-0.138
Item 5	-0.401	-0.122	0.121	-0.314	0.113	-0.377	0.069	0.066	0.010	0.125
Item 6	-0.495	0.138	0.051	-0.079	0.171	0.196	0.163	0.262	-0.132	-0.053
Item 7	-0.273	-0.404	-0.094	-0.223	-0.073	-0.049	-0.046	-0.144	-0.051	-0.423
Item 8	-0.413	0.072	0.249	-0.168	0.056	-0.017	-0.120	-0.449	0.124	-0.147
Item 9	-0.378	0.444	0.328	0.082	-0.224	-0.143	0.017	-0.015	-0.284	-0.152
Item 10	-0.394	-0.043	-0.051	0.176	0.050	-0.069	0.118	0.097	0.499	-0.047
Item 11	-0.448	-0.007	-0.056	-0.233	0.240	0.185	-0.049	0.385	0.029	0.159
Item 12	-0.497	0.065	-0.026	0.170	0.068	0.305	0.059	-0.015	0.104	0.261
Item 13	-0.365	0.262	-0.066	-0.060	0.101	-0.192	-0.080	-0.146	0.344	-0.235
Item 14	-0.413	0.143	-0.044	0.347	0.041	-0.012	0.118	-0.235	-0.229	0.074
Item 15	-0.482	0.327	-0.111	-0.005	0.082	-0.009	-0.116	-0.081	0.023	0.232
Item 16	-0.311	-0.145	-0.431	-0.015	0.020	-0.006	-0.345	0.184	0.044	-0.081
Item 17	-0.315	-0.419	-0.083	0.090	0.123	-0.060	0.254	-0.161	0.138	-0.117
Item 18	-0.459	0.247	0.35	0.180	0.211	0.108	0.092	0.012	-0.065	-0.147
Item 19	-0.619	0.154	-0.104	-0.080	-0.012	0.188	0.144	0.055	-0.123	0.074
Item 20	-0.423	0.182	-0.037	0.095	0.359	-0.036	-0.205	0.105	0.191	-0.082
Item 21	-0.464	-0.288	0.001	-0.101	-0.067	-0.046	0.389	-0.065	0.065	-0.205

Item 22	-0.416	-0.224	0.296	0.134	0.145	0.340	0.161	0.051	-0.121	-0.035
Item 23	-0.447	-0.065	-0.138	0.214	0.099	-0.171	0.029	-0.005	0.295	-0.147
Item 24	-0.483	-0.099	-0.143	-0.030	0.233	0.153	-0.235	-0.005	0.016	0.182
Item 25	-0.359	0.166	-0.263	0.036	-0.354	0.210	0.080	-0.199	0.233	-0.102
Item 26	-0.405	-0.307	0.128	0.005	0.018	-0.034	0.157	-0.033	-0.016	0.301
Item 27	-0.322	-0.280	-0.163	-0.072	0.240	0.244	-0.189	-0.222	-0.148	0.063
Item 28	-0.492	0.056	0.293	-0.167	-0.185	0.051	-0.019	-0.032	-0.172	0.110
Item 29	-0.401	-0.154	-0.021	-0.318	0.084	0.194	0.084	0.297	0.022	-0.160
Item 30	-0.406	0.105	0.090	-0.129	0.087	-0.116	0.068	-0.256	0.050	-0.105
Item 31	-0.368	0.056	0.174	0.229	0.285	-0.171	-0.031	0.058	0.079	-0.098
Item 32	-0.311	-0.337	-0.060	0.072	0.253	0.239	-0.158	-0.086	0.008	-0.119
Item 33	-0.345	0.002	-0.193	0.123	0.095	-0.465	-0.247	0.085	-0.047	0.055
Item 34	-0.381	0.188	-0.322	0.254	-0.278	0.191	0.111	0.116	0.160	0.063
Item 35	-0.507	-0.120	0.078	-0.193	0.100	-0.214	-0.301	-0.012	0.158	0.099
Item 36	-0.399	0.521	0.223	-0.098	0.222	-0.052	0.065	-0.020	0.102	-0.145
Item 37	-0.532	0.015	0.032	-0.010	0.066	-0.207	-0.142	0.138	0.063	0.284
Item 38	-0.558	0.201	-0.065	0.040	-0.184	0.012	-0.003	-0.191	0.042	-0.208
Item 39	-0.315	-0.049	0.182	-0.398	-0.301	-0.444	0.104	-0.056	0.133	0.101
Item 40	-0.408	-0.385	-0.032	0.197	-0.146	-0.132	-0.213	-0.063	-0.158	0.139
Item 41	-0.437	-0.142	0.094	0.067	-0.119	0.251	0.029	-0.169	-0.136	-0.178
Item 42	-0.366	-0.191	-0.015	0.301	-0.102	0.165	-0.018	-0.110	0.049	-0.124
Item 43	-0.409	0.110	-0.446	-0.132	-0.06	0.165	0.025	-0.194	0.014	-0.034
Item 44	-0.355	0.154	-0.381	-0.049	-0.181	0.065	0.233	-0.268	-0.150	0.064
Item 45	-0.539	0.169	0.008	-0.005	0.118	-0.190	-0.210	0.036	-0.167	0.073
Item 46	-0.391	0.191	-0.165	0.281	-0.050	-0.153	0.322	-0.068	0.042	0.169
Item 47	-0.299	-0.032	0.054	0.172	-0.061	-0.111	-0.434	-0.201	-0.002	-0.084
Item 48	-0.422	-0.115	-0.113	0.493	-0.133	-0.113	0.205	-0.039	0.136	0.053
Item 49	-0.401	-0.014	0.072	-0.054	0.377	-0.071	0.087	-0.024	-0.244	0.031
Item 50	-0.346	0.006	-0.234	-0.231	-0.237	-0.111	-0.160	-0.051	0.158	0.102
Item 51	-0.388	-0.148	-0.073	0.055	0.073	-0.355	-0.046	0.089	-0.152	0.307
Item 52	-0.278	-0.017	0.264	-0.338	-0.241	0.149	-0.082	-0.365	-0.024	0.220
Item 53	-0.384	0.197	0.493	0.124	-0.053	0.165	-0.154	-0.024	0.084	-0.159
Item 54	-0.341	0.152	0.122	-0.020	-0.388	-0.070	-0.004	0.446	-0.069	-0.130
Item 55	-0.318	-0.239	0.190	0.150	0.078	-0.013	0.011	-0.022	-0.289	-0.166
Item 56	-0.294	0.130	0.218	0.129	-0.008	-0.013	-0.046	-0.143	-0.009	0.311
Item 57	-0.279	0.176	0.010	-0.586	0.252	0.086	0.074	0.143	-0.029	-0.015
Item 58	-0.293	0.432	0.064	-0.021	0.033	0.002	0.123	0.154	-0.225	-0.169
Item 59	-0.268	-0.391	0.009	-0.117	0.196	-0.121	0.362	0.162	-0.054	-0.209
Item 60	-0.276	0.306	-0.314	-0.303	-0.149	0.200	-0.023	-0.036	0.031	0.073
Item 61	-0.226	-0.033	-0.176	-0.254	-0.164	-0.028	-0.085	0.427	-0.129	-0.289
Item 62	-0.239	-0.467	0.077	0.001	0.051	0.209	-0.139	0.198	0.044	0.300
Item 63	-0.208	-0.037	-0.165	-0.293	-0.147	-0.058	0.063	-0.184	0.024	0.030
Item 64	-0.223	-0.217	0.508	-0.107	-0.223	0.165	-0.148	0.163	0.263	0.056
Item 65	-0.233	-0.301	-0.259	0.040	-0.074	-0.081	-0.241	0.025	-0.351	-0.078
Item 66	-0.202	-0.266	0.402	-0.023	-0.327	-0.083	-0.027	0.189	0.308	-0.139
Item 67	-0.233	0.118	-0.080	-0.133	0.012	-0.091	0.477	0.257	0.208	0.188
Item 68	-0.174	-0.447	-0.076	-0.082	0.136	-0.408	0.069	-0.160	-0.110	-0.191
Item 69	-0.188	-0.079	-0.069	-0.279	-0.182	0.281	0.046	-0.008	-0.179	0.027
Item 70	-0.214	-0.207	-0.351	0.344	-0.159	-0.086	0.139	0.319	-0.105	-0.072
Item 71	-0.252	0.436	0.049	0.293	-0.137	-0.226	-0.132	0.190	-0.287	-0.166
Item 72	-0.143	-0.336	0.090	-0.185	-0.162	0.003	-0.036	-0.172	-0.112	-0.105
Item 73	-0.189	-0.282	0.053	0.072	-0.543	-0.166	0.082	0.091	-0.105	0.130
Item 74	-0.209	-0.272	0.276	0.176	-0.226	0.261	-0.229	0.222	0.103	-0.003

Reliability

The reliability of the instrument was evaluated using Cronbach's alpha procedure. The computed overall reliability coefficient of 0.907 indicates that the tool demonstrates excellent internal consistency. To further examine the internal coherence of the scale, the Corrected Item–Total Correlation was calculated for all 74 items. Table 10 presents the Cronbach's Alpha values for each item when deleted individually, providing insight into the contribution of each item to the overall reliability of the Life Skills Item Scale.

Table 10 Cronbach's Alpha Values for Items of the Life Skills Scale

Item No.	Corrected Item Total Correlation	Cronbach Alpha if item deleted	Item No.	Corrected Item Total Correlation	Cronbach Alpha if item deleted	Item No.	Corrected Item Total Correlation	Cronbach Alpha if item deleted
•	0.302	0.906	26.	0.370	0.905	51.	0.353	0.905
•	0.341	0.905	27.	0.284	0.906	52.	0.261	0.906
•	0.374	0.905	28.	0.453	0.904	53.	0.349	0.905
•	0.302	0.906	29.	0.382	0.905	54.	0.326	0.905
•	0.380	0.905	30.	0.363	0.906	55.	0.278	0.906
•	0.437	0.904	31.	0.337	0.905	56.	0.259	0.906
•	0.271	0.906	32.	0.285	0.906	57.	0.245	0.906
•	0.372	0.905	33.	0.311	0.906	58.	0.261	0.906
•	0.340	0.905	34.	0.333	0.905	59.	0.248	0.906
•	0.352	0.905	35.	0.471	0.904	60.	0.243	0.906
•	0.400	0.905	36.	0.344	0.905	61.	0.219	0.906
•	0.443	0.904	37.	0.481	0.904	62.	0.221	0.906
•	0.327	0.905	38.	0.513	0.904	63.	0.205	0.907
•	0.365	0.905	39.	0.301	0.906	64.	0.213	0.906
•	0.423	0.905	40.	0.383	0.905	65.	0.222	0.906
•	0.284	0.906	41.	0.406	0.905	66.	0.206	0.906
•	0.299	0.906	42.	0.333	0.905	67.	0.204	0.906
•	0.400	0.905	43.	0.371	0.905	68.	0.172	0.907
•	0.569	0.904	44.	0.327	0.905	69.	0.181	0.907
•	0.356	0.905	45.	0.492	0.904	70.	0.199	0.906
•	0.439	0.905	46.	0.336	0.905	71.	0.207	0.906
•	0.375	0.905	47.	0.272	0.906	72.	0.145	0.907
•	0.404	0.905	48.	0.373	0.905	73.	0.184	0.906
•	0.429	0.905	49.	0.354	0.905	74.	0.189	0.907
•	0.324	0.905	50.	0.331	0.905			

Table 10 shows that the Cronbach's alpha scores arrived at for every item are always less than the overall calculated coefficient of reliability, 0.907. This proves that dropping any single item would result in a massive loss of the tool's reliability. Therefore, the results present very strong evidence of the internal consistency of the tool being solid and established.

Table 11 illustrates the systematic organization of the statements falling under their respective components, thus providing a clear structure representation of the tool. This organization not only aids the better conceptualization of the underlying dimensions captured by the scale but also enhances the interpretability of the derived components. Such an organization also confirms the construct alignment of the tool, with each component appropriately reflecting a cohesive cluster of items.

Table 11 Items of the Life Skills Scale – Dimension Wise

Sl. No.	Dimensions	Statements	Total Number of Items
1.	Self-Awareness	2, 3, 6, 11, 12, 15, 18, 29, 34	9
2.	Empathy	9, 17, 32, 36, 58, 59, 62	7
3.	Critical Thinking	4, 5, 16, 43, 44, 53, 60, 64	8
4.	Creative Thinking	13, 14, 20, 25, 26, 48, 57, 63	8
5.	Decision Making	19, 22, 23, 27, 37, 41, 70, 73	8
6.	Problem Solving	21, 28, 33, 39, 42, 50, 56, 69	8
7.	Communication	1, 30, 31, 38, 47, 67, 40, 45	8
8.	Interpersonal Skills	8, 52, 54, 61, 68, 71, 72	7
9.	Coping with Stress	10, 35, 46, 55, 65, 74	6
10.	Coping with Emotions	7, 24, 49, 51, 66	5

Final form of the Life Skills Scale

Instruction: Please read each of the statements carefully and indicate your level of agreement by selecting one of the options given: Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree. Mark your chosen response with a tick (✓).

Sl. No.	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I can recognize my emotions					
2.	I can identify the reasons for my emotions					
3.	I know the effects of emotions					
4.	I can point out the different kinds of emotions					
5.	I can accomplish my tasks within the time					
6.	I have trust in my abilities and skills					
7.	I can understand others feelings					
8.	I can make out when someone feels discomfort					
9.	I consider others feelings before I act					
10.	I feel sorry when someone weeps					
11.	I provide comfort when someone feels sad					
12.	I respect others religion and culture					
13.	I consider others views even though they are agreeable to me					
14.	I appreciate others capabilities					
15.	I don't form any impression on anyone just based on their appearance and interactions					
16.	I can weigh the pros and cons of information					
17.	I can identify the misleading and false information					
18.	I used to verify the genuineness of information that I get					
19.	I can point out the root causes for a situation					
20.	I can connect the events that led to development of a situation					
21.	I reflect on the happening than worrying about them					
22.	I assess carefully the end results before taking actions					
23.	I like to do things differently					
24.	I can adopt variety of actions for a problem					
25.	I like to create new things from the existing ones					
26.	I can give ideas beyond others imagination					
27.	I work on different strategies to end the problems					
28.	I consider all options before deciding things					
29.	I decide things based on the factual information					
30.	I can project the effects of my actions					
31.	I seek others suggestions and guidance before taking decisions					
32.	I am aware of the effects of my decisions					
33.	I own responsibilities for my decisions					
34.	I refrain from taking harmful decisions					
35.	I think about my earlier decisions					
36.	I am bold in taking hard decisions					
37.	I can understand the reality of problems					
38.	I can identify the causes for the problems					
39.	I can sense the problems that could get intensified					
40.	I search for information to gain better understanding on problems					
41.	I can make out the nature of problems					
42.	I keep in mind about the positive and negative impacts of solutions to problems					
43.	I seek others help when I become clueless to solve problems					
44.	I make trials of solutions that perfectly fits to solve problems					
45.	I keep change my plan of actions until problems are solved					
46.	I can speak clearly to express my views					

47.	I can seek clarifications from others for my understanding					
48.	I can communicate to others when I am not comfortable with their communication					
49.	I can give clear instructions and directions to others					
50.	I can listen to others views without interrupting them					
51.	I can recall what people told me					
52.	I can get my doubts clarified with others					
53.	I can respond to others views based on my understanding					
54.	I like to spend time with my friends					
55.	I can make new friends					
56.	I take care of my friends while they are in critical situations					
57.	I am frank to my friends					
58.	I can maintain friendship at all situations					
59.	I don't get agitated when arguments are made					
60.	I can quietly deal with problems without making a fuss					
61.	I can consider others point of views to solve a conflict					
62.	I regret for my faults					
63.	I can clearly express my stress					
64.	I can feel whenever I am over stressed					
65.	I can identify the reasons causing stress to me					
66.	I deeply breath to cool down myself whenever I am stressed					
67.	I take a short break when I am stressed out					
68.	I plan my time and events meticulously to avoid stress					
69.	I keep myself cool and steady to get away from stress					
70.	I can clearly describe the kind of emotions that I get					
71.	I can point out the causes for my emotions					
72.	I can talk to people when I am emotionally disturbed					
73.	I can withstand from any kind of emotional disturbances					
74.	I can narrate my feelings by any mode of communication					

Scoring

All items across the ten dimensions are positively worded. Accordingly, responses are scored on a five-point scale of Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5). Higher scores indicate greater agreement with the statements and reflect stronger level of life skills among the respondents.

CONCLUSION

The present study methodically framed and tested a wide-ranging Life Skills Scale using stringent statistical treatments such as Goodness-of-Fit testing, Item–Total correlation analysis, Dimension–Total correlation, and Factor Analysis. Starting with 100 test items, subsequent filtering and testing procedures resulted in selection of 74 highly valid and reliable test items, which were spread over ten core life skills proposed by the WHO. The results validated both the factorial validity and construct validity of the scale to make it a sound psychometric measure the life skills of secondary school students. The very high level of significance found for correlations between each dimension and the composite measure also supports that every skill adds to the overall life skills construct in a meaningful way. This empirically validated assessment tool provides a valuable addition to the field of education, especially in formally assessing pivotal life skills of secondary school students, who would be in the adolescent stage, that affect their personal, sociocultural, and academic growth. Through a sound measurement method, the research fills an essential void in the educational literature, providing policymakers, teachers, psychologists, and counselors with a standard tool for assessment of life skills of secondary school students, design intervention strategies, and curriculum planning.

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